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CLAIMS:

What is claimed is:

1   1.   A method of managing copies of virtual volume data,
2   comprising:
3   receiving an access request directed to an original
4   virtual volume;
5   mapping the access request to a secondary virtual
6   volume; and
7   performing the access request on one or more
8   physical volumes associated with the secondary virtual
9   volume.

1   2.   The method of claim 1, wherein the original virtual
2   volume is associated with one or more original physical
3   volumes, and wherein the one or more original physical
4   volumes are different from the one or more physical
5   volumes.

1   3.   The method of claim 1, wherein the original virtual
2   volume is associated with one or more original physical
3   volumes, and wherein the one or more original physical
4   volumes are the same as the one or more physical volumes.

1   4.   The method of claim 2, wherein the one or more
2   original physical volumes are on a first type of data
3   storage media, and wherein the one or more physical
4   volumes are on a second type of data storage media.

1 5.   The method of claim 4, wherein the first type of
2 data storage media and the second type of data storage
3 media is one of magnetic tape media, magnetic disk media,
4 optical media, floppy diskettes, CD-ROM media, DVD-ROM
5 media, random access memory (RAM), and memory card media.

1 6.   The method of claim 1, wherein mapping the access
2 request to a secondary virtual volume includes
3 redirecting the access request from a first secondary
4 virtual volume to a second secondary virtual volume.

1 7.   The method of claim 6, wherein the access request is
2 redirected in response to a fault in a physical volume of
3 the first secondary virtual volume.

1 8.   The method of claim 6, wherein the access request is
2 redirected in response to a command to redirect the
3 access request to the second secondary virtual volume.

1 9.   The method of claim 6, wherein the first secondary
2 virtual volume includes physical volumes on a first media
3 type and the second secondary virtual volume includes
4 physical volumes on a second media type.

1 10. The method of claim 9, wherein performing the access
2 request on one or more physical volumes associated with
3 the secondary virtual volume includes converting the
4 access request to a format suitable for the second media
5 type.

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1   11.   The method of claim 1, wherein the access request is

2   received using a first communication protocol and wherein

3   performing the access request on one or more physical

4   volumes associated with the secondary virtual volume

5   includes converting the access request from the first

6   communication protocol to a second communication

7   protocol.

1   12.   An apparatus for managing copies of virtual volume

2   data, comprising:

3   means for receiving an access request directed to an

4   original virtual volume;

5   means for mapping the access request to a secondary

6   virtual volume; and

7   means for performing the access request on one or

8   more physical volumes associated with the secondary

9   virtual volume.

1   13.   The apparatus of claim 12, wherein the original

2   virtual volume is associated with one or more original

3   physical volumes, and wherein the one or more original

4   physical volumes are different from the one or more

5   physical volumes.

1   14.   The apparatus of claim 12, wherein the original

2   virtual volume is associated with one or more original

3   physical volumes, and wherein the one or more original

4   physical volumes are the same as the one or more physical

5   volumes.

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1   15.   The apparatus of claim 13, wherein the one or more
2   original physical volumes are on a first type of data
3   storage media, and wherein the one or more physical
4   volumes are on a second type of data storage media.

1   16.   The apparatus of claim 15, wherein the first type of
2   data storage media and the second type of data storage
3   media is one of magnetic tape media, magnetic disk media,
4   optical media, floppy diskettes, CD-ROM media, DVD-ROM
5   media, random access memory (RAM), and memory card media.

1   17.   The apparatus of claim 12, wherein the means for
2   mapping the access request to a secondary virtual volume
3   includes means for redirecting the access request from a
4   first secondary virtual volume to a second secondary
5   virtual volume.

1   18.   The apparatus of claim 17, wherein the access
2   request is redirected in response to a fault in a
3   physical volume of the first secondary virtual volume.

1   19.   The apparatus of claim 17, wherein the access
2   request is redirected in response to a command to
3   redirect the access request to the second secondary
4   virtual volume.

1   20.   The apparatus of claim 17, wherein the first
2   secondary virtual volume includes physical volumes on a
3   first media type and the second secondary virtual volume
4   includes physical volumes on a second media type.

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1 21. The apparatus of claim 20, wherein the means for
2 performing the access request on one or more physical
3 volumes associated with the secondary virtual volume
4 includes means for converting the access request to a
5 format suitable for the second media type.

1 22. The apparatus of claim 12, wherein the access
2 request is received using a first communication protocol
3 and wherein the means for performing the access request
4 on one or more physical volumes associated with the
5 secondary virtual volume includes means for converting
6 the access request from the first communication protocol
7 to a second communication protocol.

1 23. A computer program product in a computer readable
2 medium for managing copies of virtual volume data,
3 comprising:
4   first instructions for receiving an access request
5 directed to an original virtual volume;
6   second instructions for mapping the access request
7 to a secondary virtual volume; and
8   third instructions for performing the access request
9 on one or more physical volumes associated with the
10 secondary virtual volume.

1 24. The computer program product of claim 23, wherein
2 the original virtual volume is associated with one or
3 more original physical volumes, and wherein the one or
4 more original physical volumes are different from the one
5 or more physical volumes.

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1   25. The computer program product of claim 23, wherein
2   the original virtual volume is associated with one or
3   more original physical volumes, and wherein the one or
4   more original physical volumes are the same as the one or
5   more physical volumes.

1   26. The computer program product of claim 24, wherein
2   the one or more original physical volumes are on a first
3   type of data storage media, and wherein the one or more
4   physical volumes are on a second type of data storage
5   media.

1   27. The computer program product of claim 26, wherein
2   the first type of data storage media and the second type
3   of data storage media is one of magnetic tape media,
4   magnetic disk media, optical media, floppy diskettes, CD-
5   ROM media, DVD-ROM media, random access memory (RAM), and
6   memory card media.

1   28. The computer program product of claim 23, wherein
2   the second instructions for mapping the access request to
3   a secondary virtual volume include instructions for
4   redirecting the access request from a first secondary
5   virtual volume to a second secondary virtual volume.

1   29. The computer program product of claim 28, wherein
2   the access request is redirected in response to a fault
3   in a physical volume of the first secondary virtual
4   volume.

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1 30. The computer program product of claim 28, wherein
2 the access request is redirected in response to a command
3 to redirect the access request to the second secondary
4 virtual volume.

1 31. The computer program product of claim 28, wherein
2 the first secondary virtual volume includes physical
3 volumes on a first media type and the second secondary
4 virtual volume includes physical volumes on a second
5 media type.

1 32. The computer program product of claim 31, wherein
2 the third instructions for performing the access request
3 on one or more physical volumes associated with the
4 secondary virtual volume include instructions for
5 converting the access request to a format suitable for
6 the second media type.

1 33. The computer program product of claim 23, wherein
2 the access request is received using a first
3 communication protocol and wherein the third instructions
4 for performing the access request on one or more physical
5 volumes associated with the secondary virtual volume
6 include instructions for converting the access request
7 from the first communication protocol to a second
8 communication protocol.